



POLDIRAD and LINET observations during COPS

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DLR Oberpfaffenhofen**



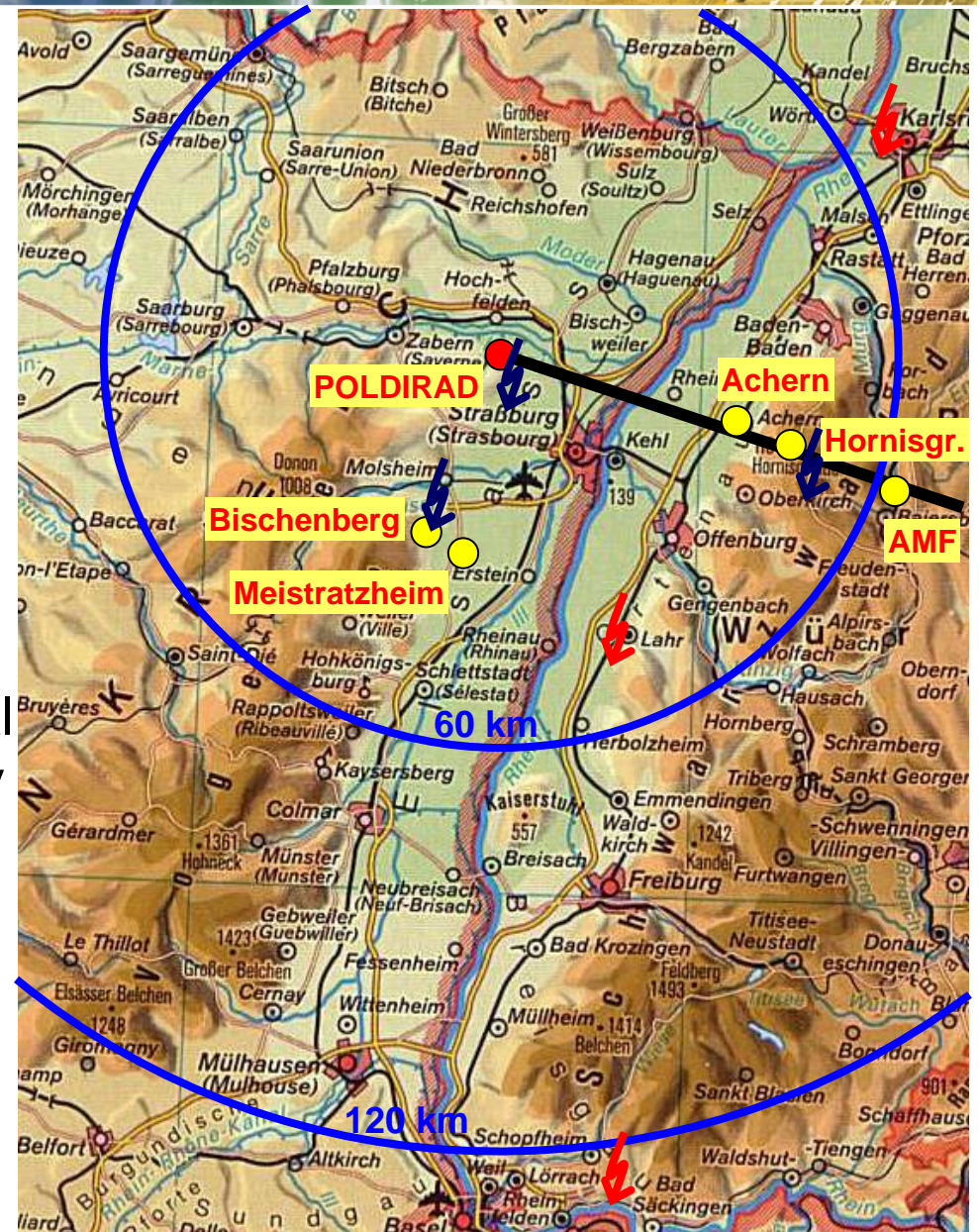
Deutsches Zentrum
für Luft- und Raumfahrt e.V.
in der Helmholtz-Gemeinschaft

Institut für Physik der Atmosphäre



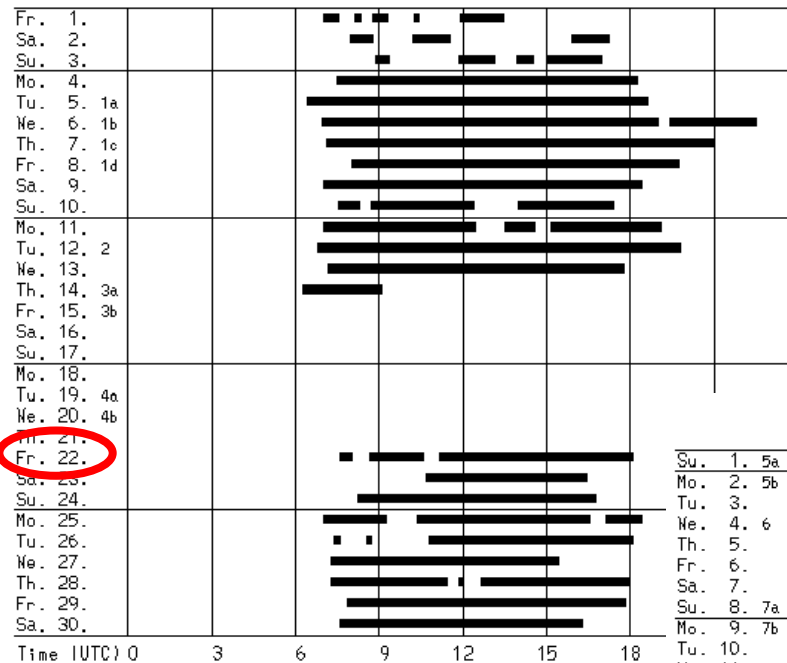
POLDIRAD and LINET

- Installation of the DLR C-band polarimetric Doppler weather radar at Waltenheim-sur-Zorn in Alsace.
 - PPI range 120 km
 - RHI towards Hornisgrinde
 - every 10 minutes
- Enhancement of the operational lightning detection network ⚡ by 4 additional stations ⚡
- Operations from June to August 2007.

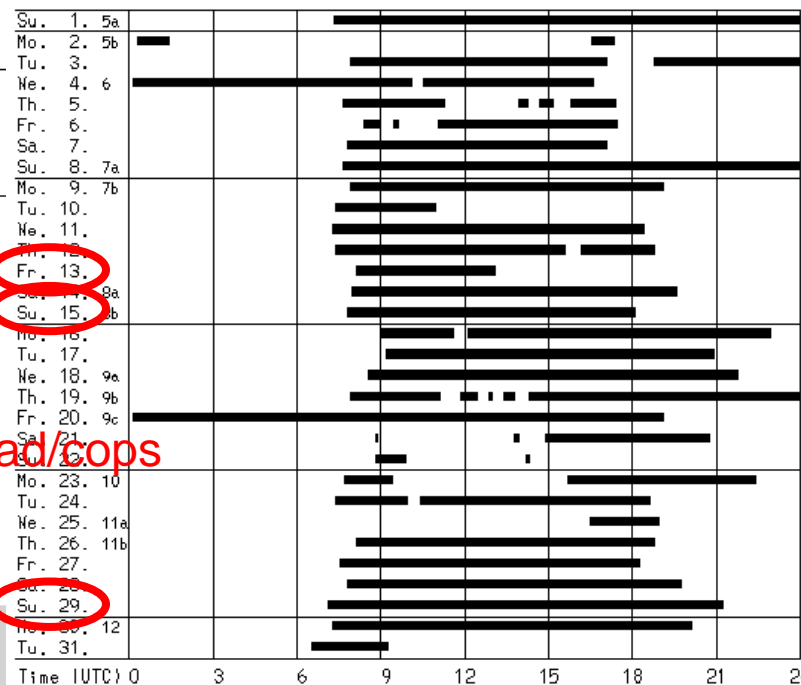


POLDIRAD operation

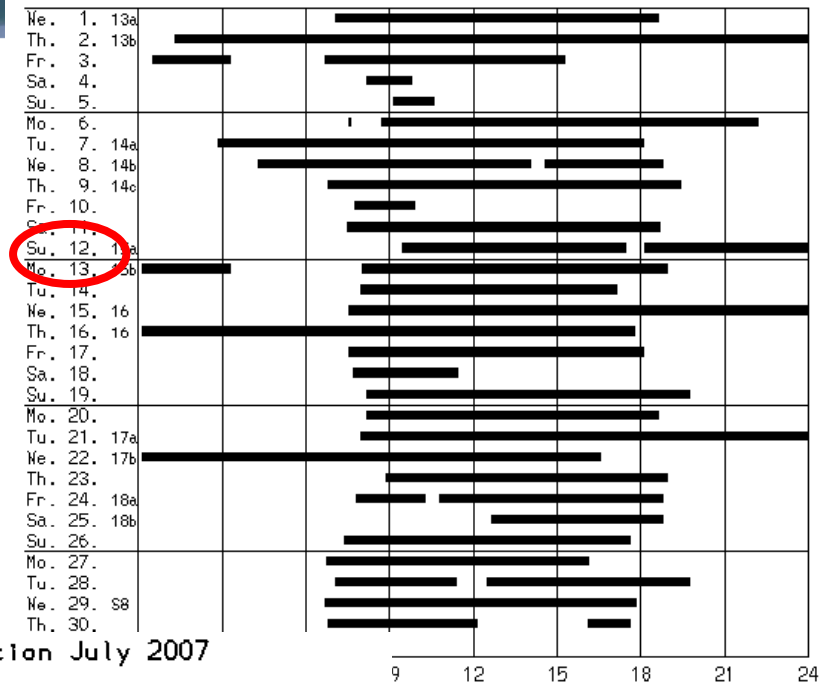
Poldirad operation June 2007



Poldirad operation July 2007



Poldirad operation Aug. 2007

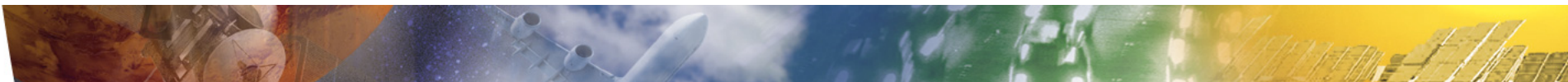


Quicklooks available at
<http://www.pa.op.dlr.de/poldirad/cops>
 and soon at WDCC



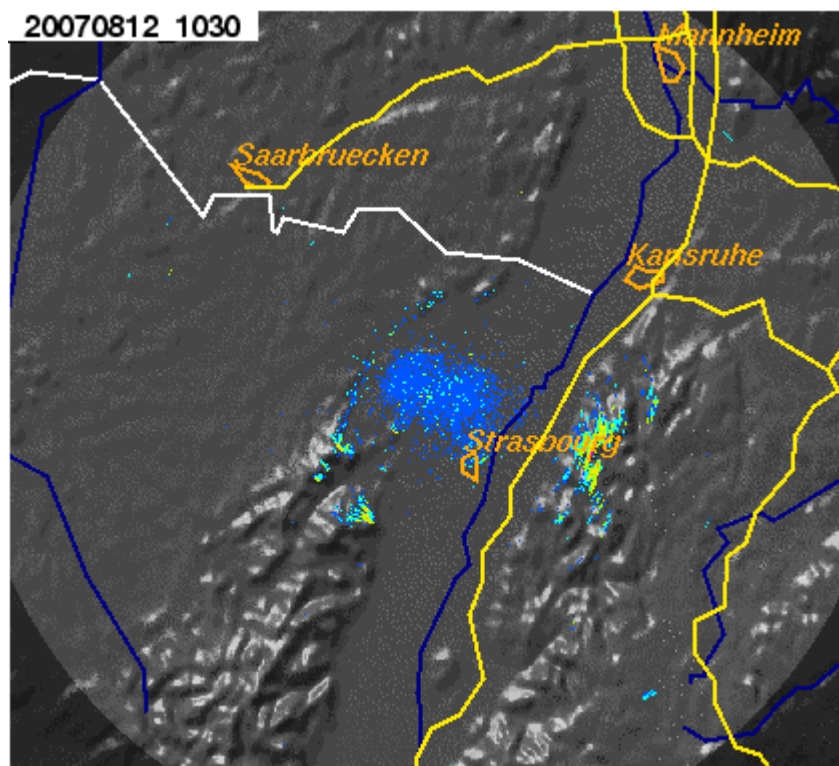
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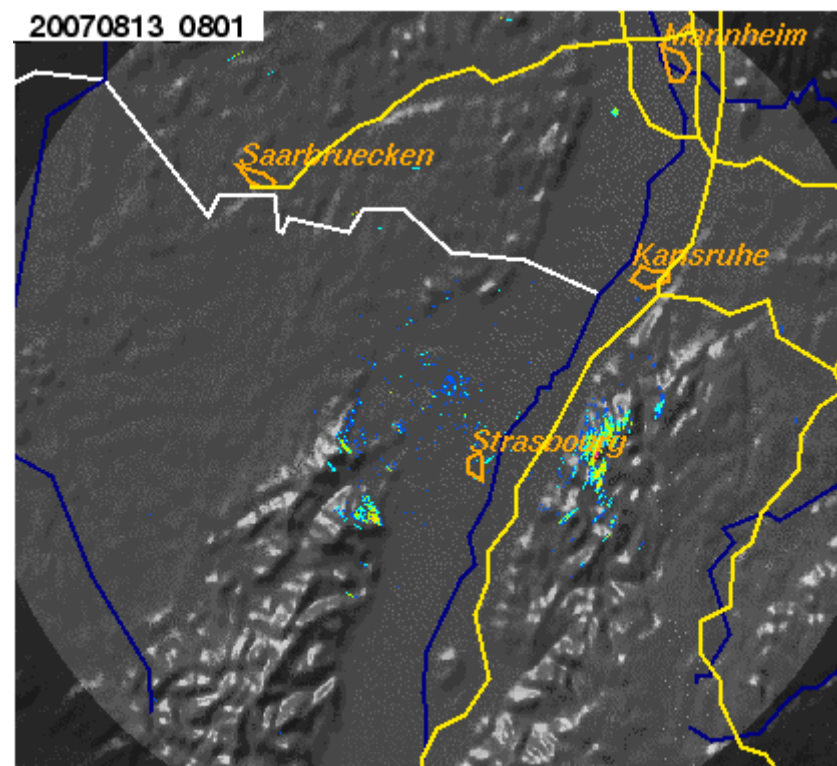


POLDIRAD observations during IOP 15 (daytime)

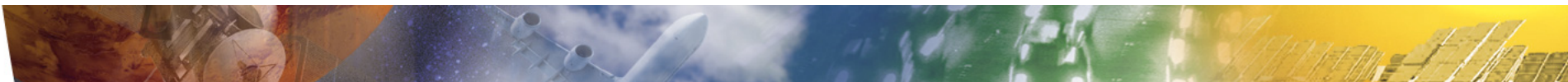
12 Aug. 2007 11-17 UTC



13 Aug. 2007 8-15 UTC

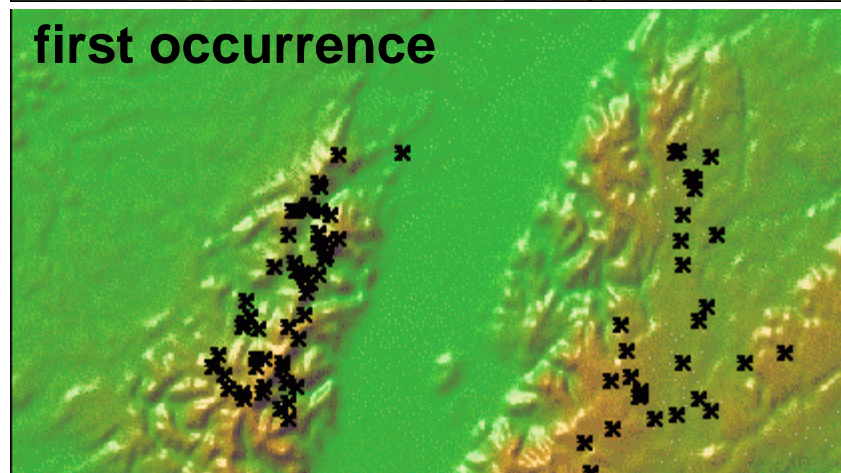
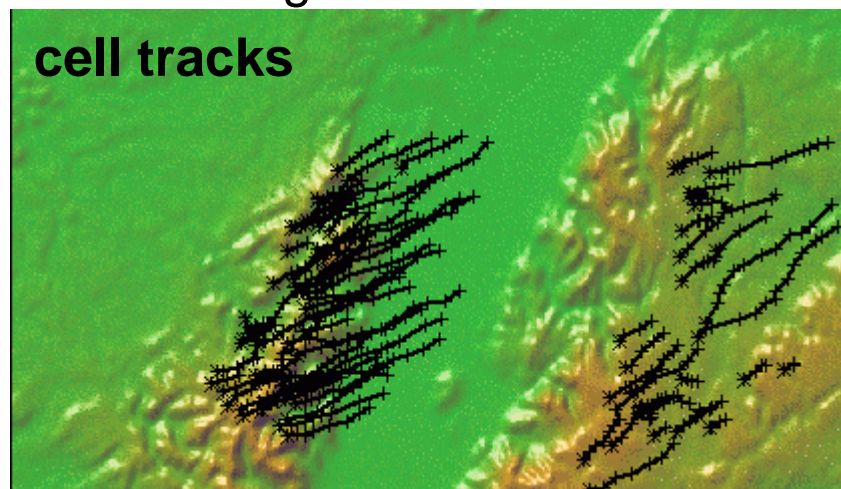


what is different between the two days ???
(over Vosges Mountains)

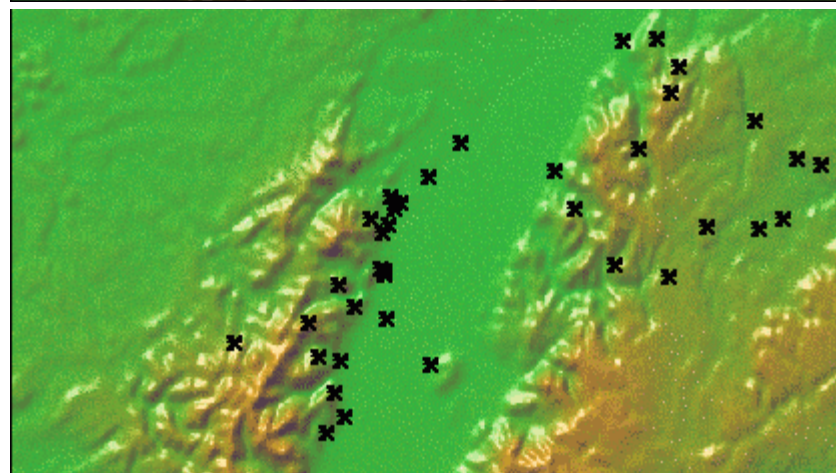
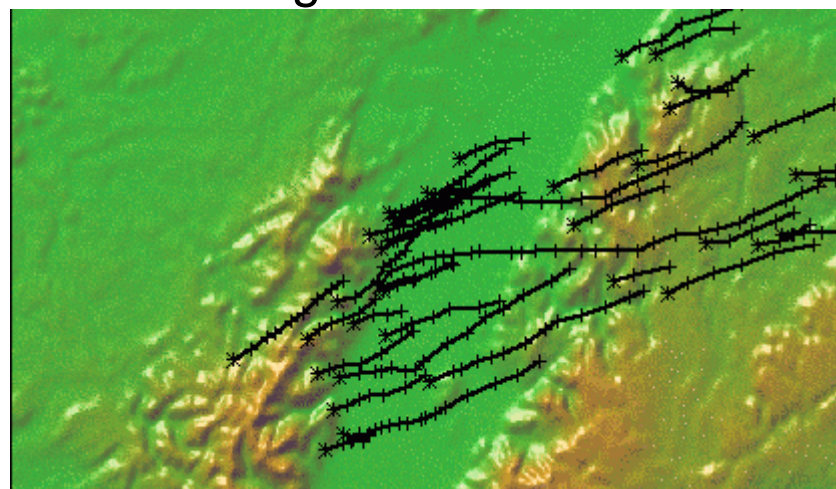


Cell Tracking IOP 15

12 Aug. 2007 11-17 UTC



13 Aug. 2007 8-15 UTC



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Martin Hagen, 6th COPS-Workshop, Hohenheim, Feb. 2008

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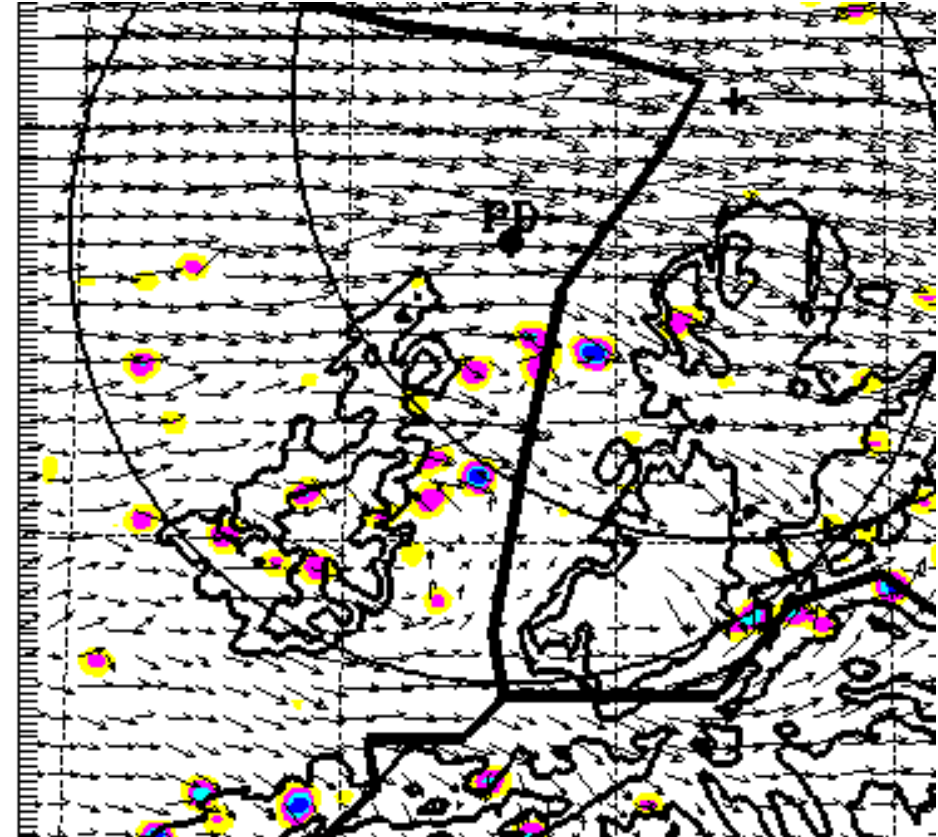
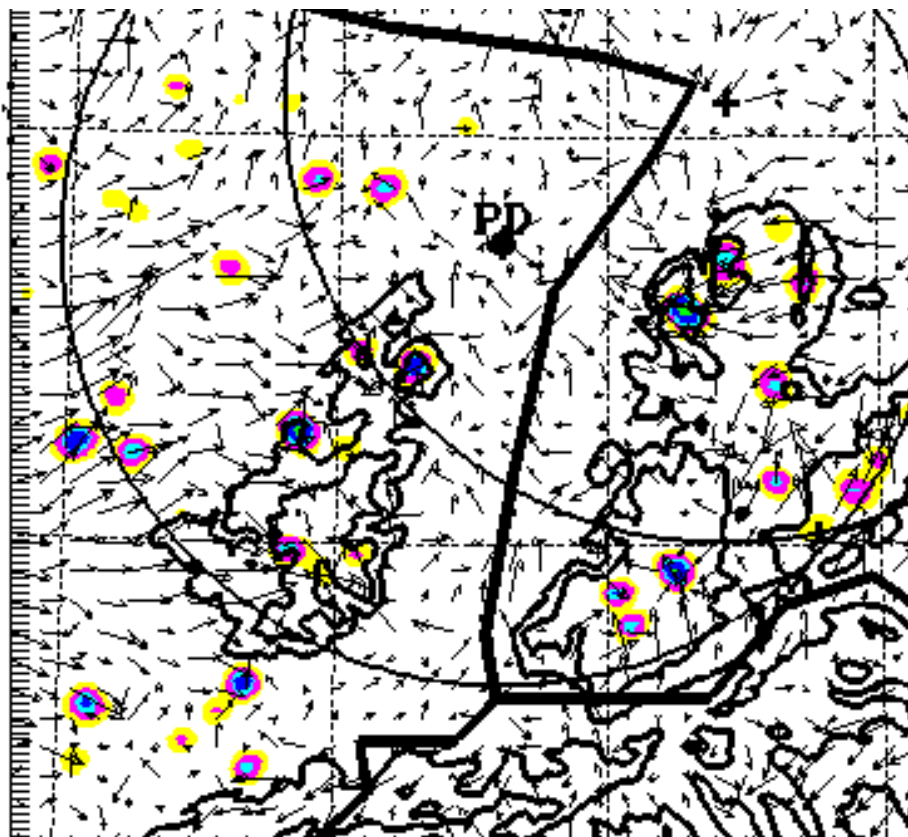


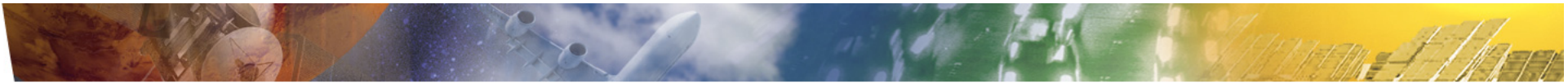
MesoNH simulation IOP 15 (Evelyne Richard)

12 Aug. 2007 15 UTC

13 Aug. 2007 11 UTC

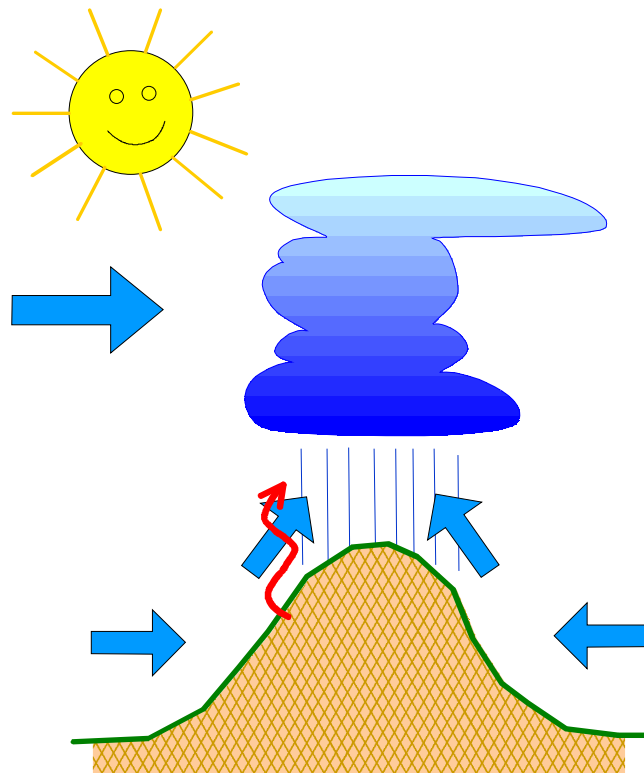
wind field and rain rate



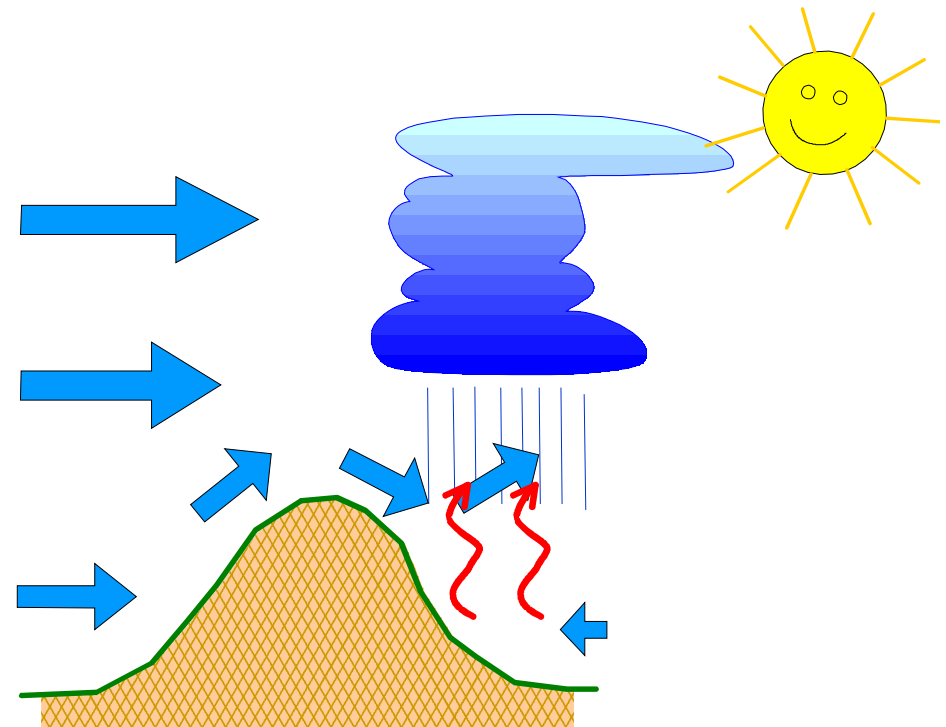


Preliminary Explanation IOP 15

12 Aug. 2007 afternoon



13 Aug. 2007 noon

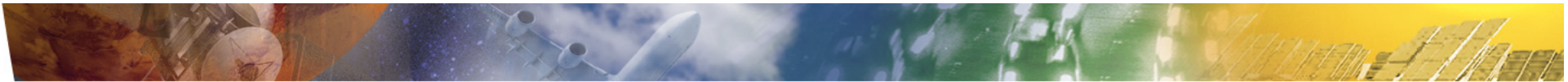


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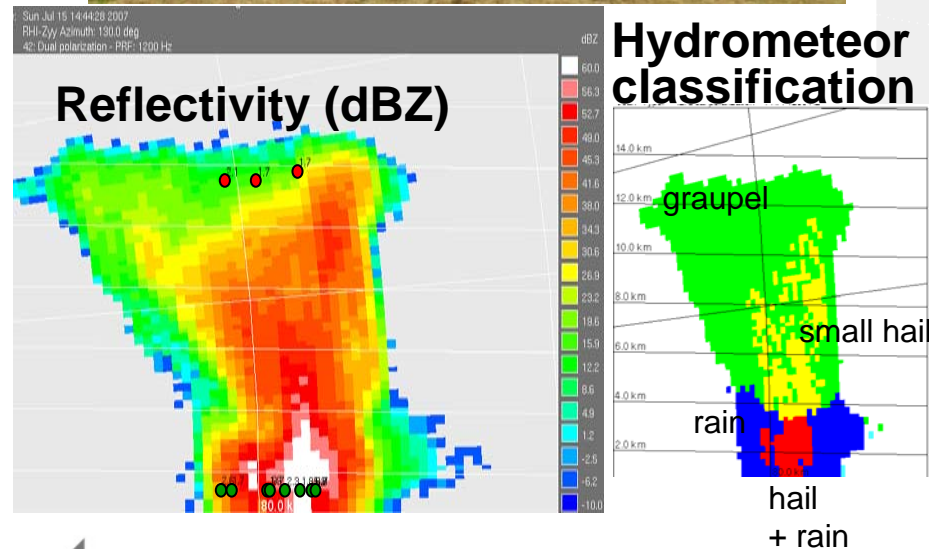
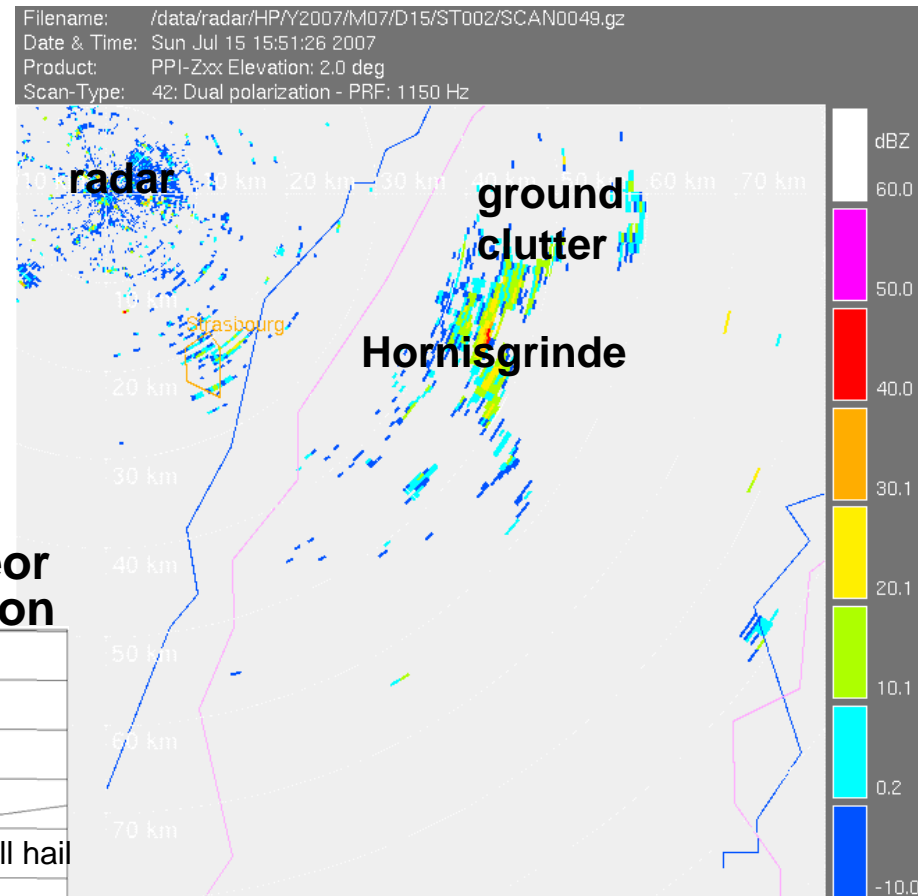
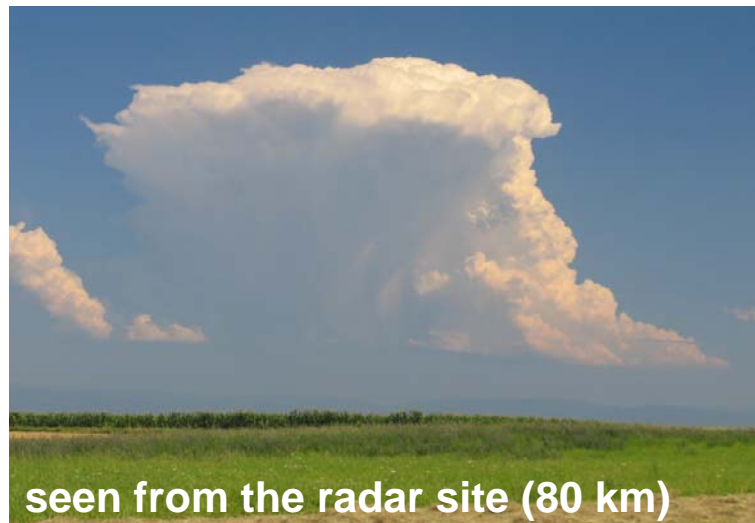
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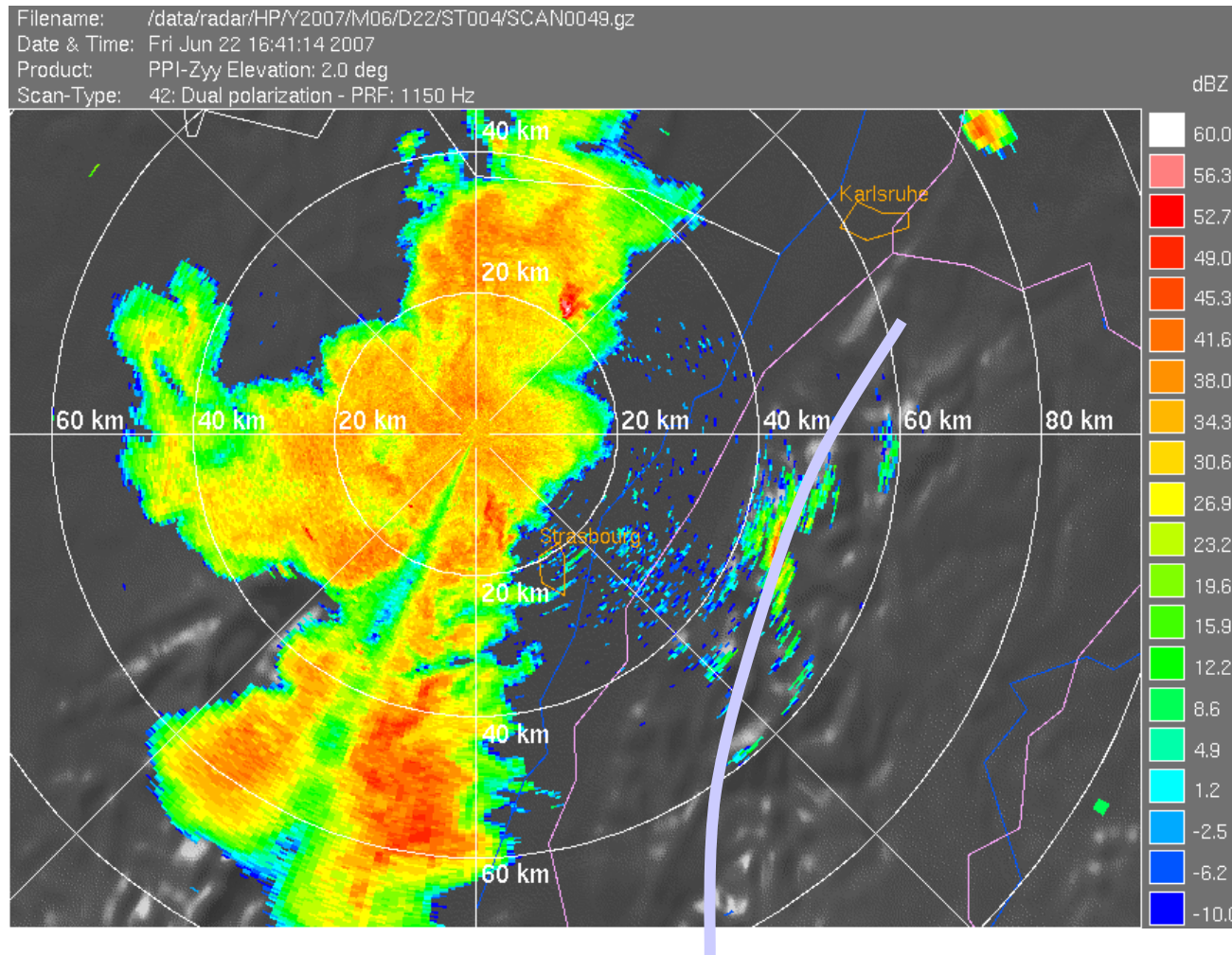




Isolated cell over Black Forest (IOP 8b, 15 July 2007)



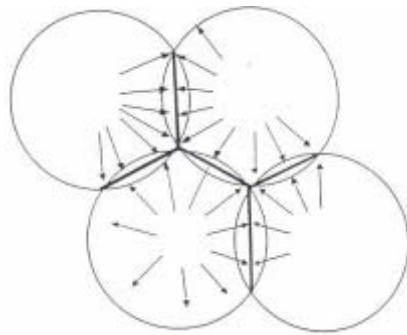
Enhancement of precipitation on the wind-ward side of the Black Forest (22 June 2007)



Clear-air echoes (13 July 07)

Fri Jul 13 12:31:38 2007
PPI-Vy2 Elevation: 2.0 deg
42: Dual polarization - PRF: 1150 Hz

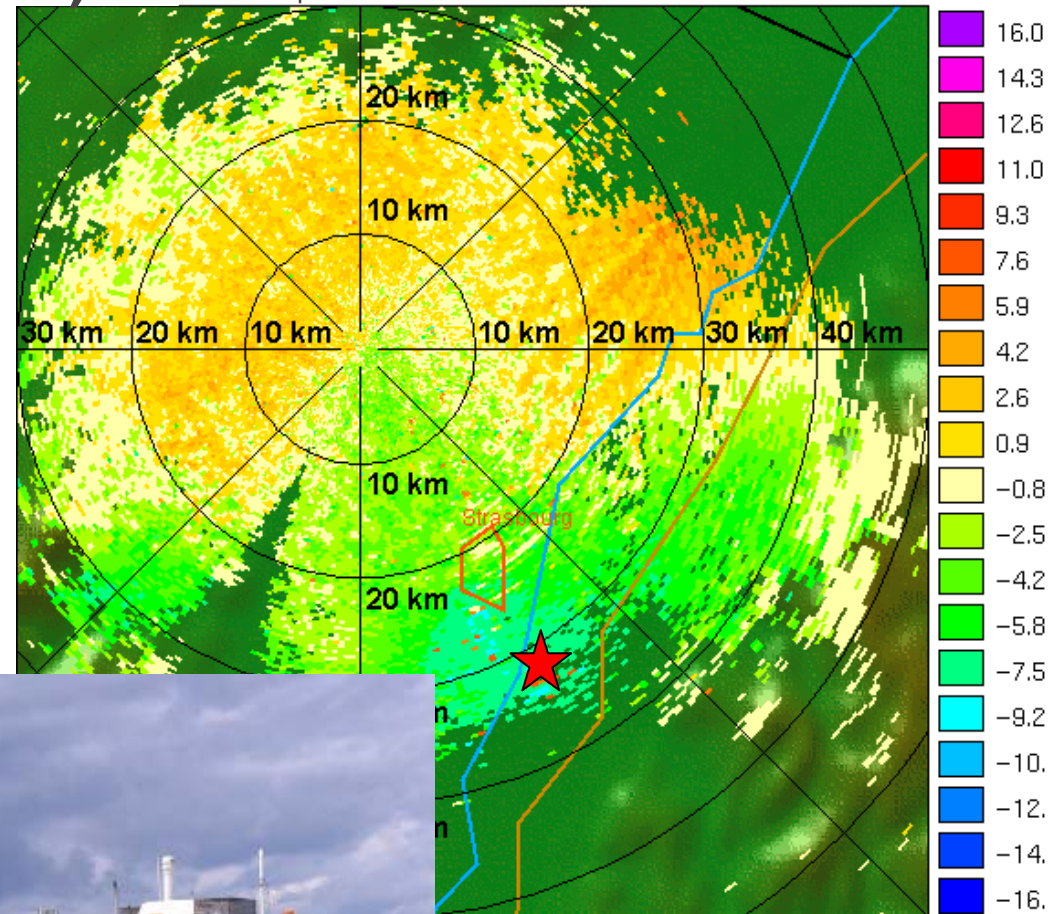
- Convective patterns visible in Doppler velocity



(Schmidt, 1988)

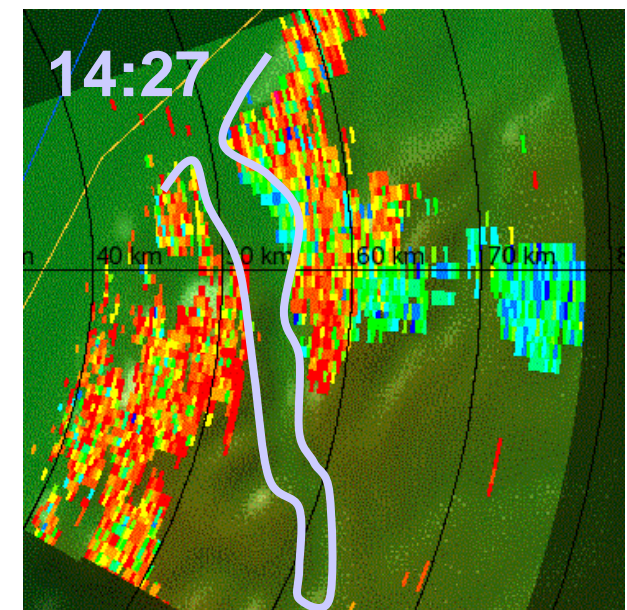
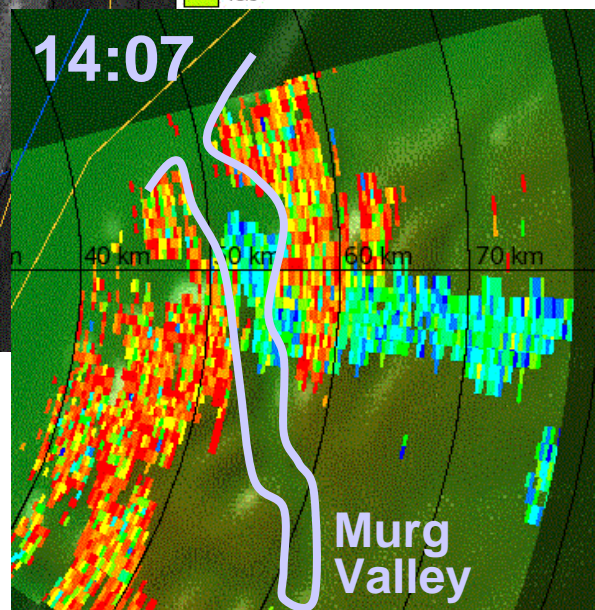
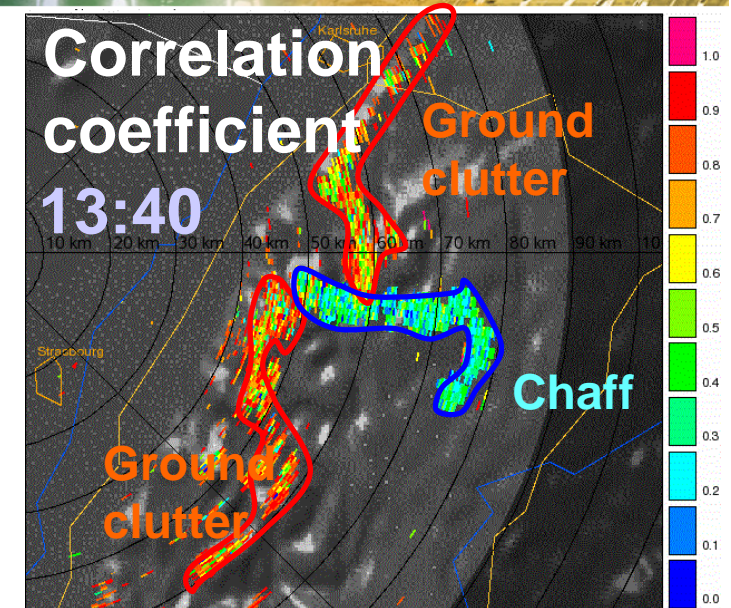
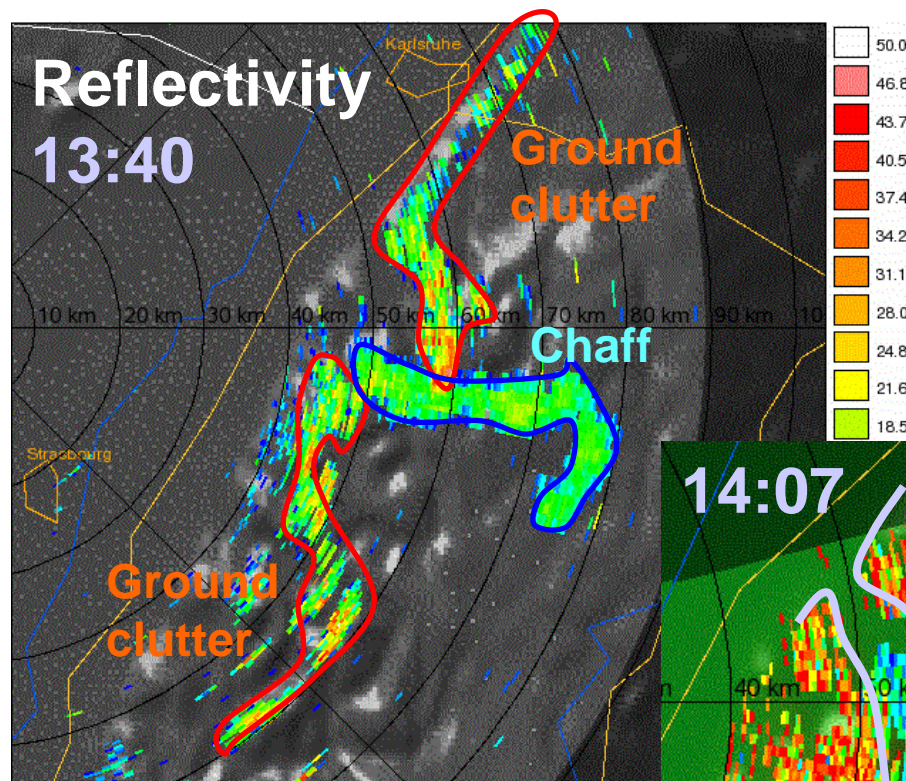
- Combined measurements with Doppler on Wheels (DOW 2+3)

dual-Doppler wind fields



POLDIRAD Observation 29 July 07

Chaff released by Do128 D-IBUF



DFG-PP Proposal within COPS bundle: Life Cycle of Precipitating Convective Cells

Aim of the proposal:

**to study the life cycle of small precipitating
convective cells from initiation to decay**

- initiation of cells in relation to orography, surface wind field related to orography, moisture field (radar, lidar, LINET, ...)
- live cycle of precipitation, variation of rain drop size distribution (polarimetric measurements)
- enhancement or weakening in relation to orography
- decay of cells, relation to orography, modification of rain drop size distribution

PhD student position open

